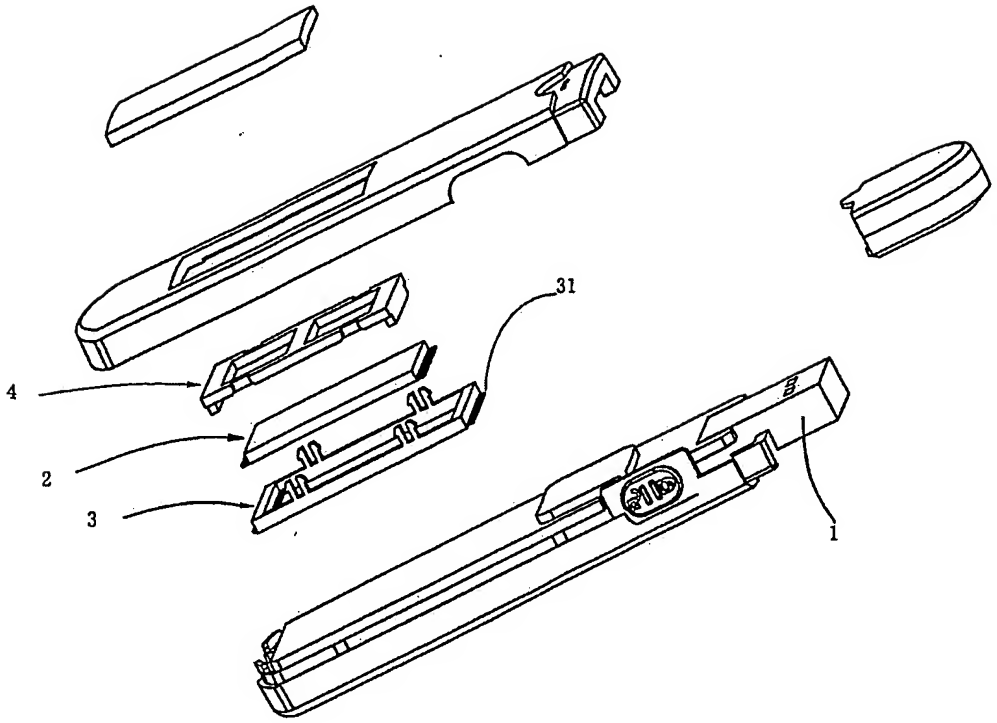

FIG. 1

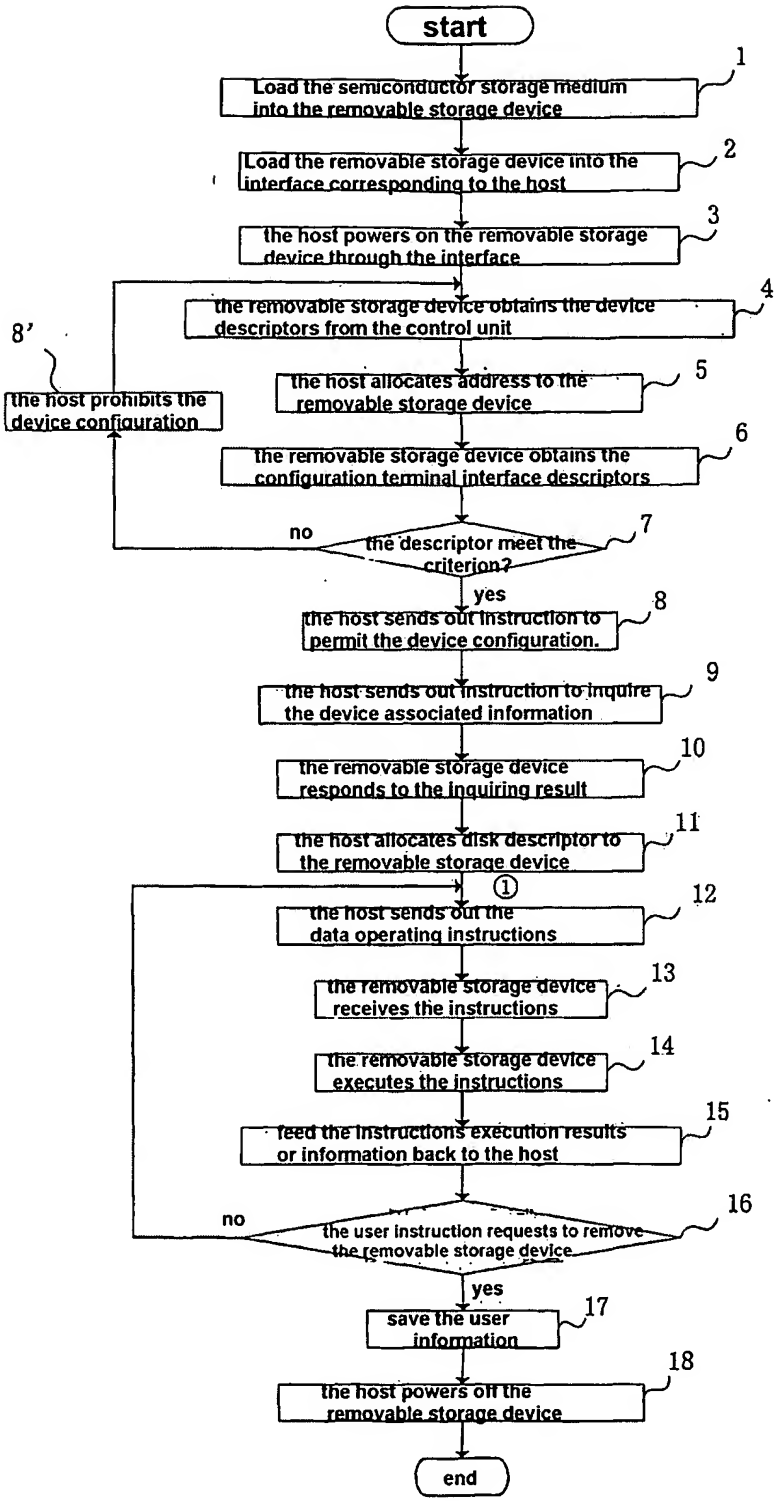
start
Load the semiconductor storage medium into the removable storage device
1
Load the removable storage device into the interface corresponding to the host
2
the host powers on the removable storage device through the interface
3
the removable storage device obtains the device descriptors from the control unit
4
8'
the host prohibits the device configuration
the host allocates address to the removable storage device
5
the removable storage device obtains the configuration terminal interface descriptors
6
no
the descriptor meet the criterion?
7
yes
the host sends out instruction to permit the device configuration.
8
the host sends out instruction to inquire the device associated information
9
the removable storage device responds to the inquiring result
10
the host allocates disk descriptor to the removable storage device
11
①
the host sends out the data operating instructions
12
the removable storage device receives the instructions
13
the removable storage device executes the instructions
14
feed the instructions execution results or information back to the host
15
no
the user instruction requests to remove the removable storage device
16
yes
save the user information
17
the host powers off the removable storage device
18
end

FIG. 2

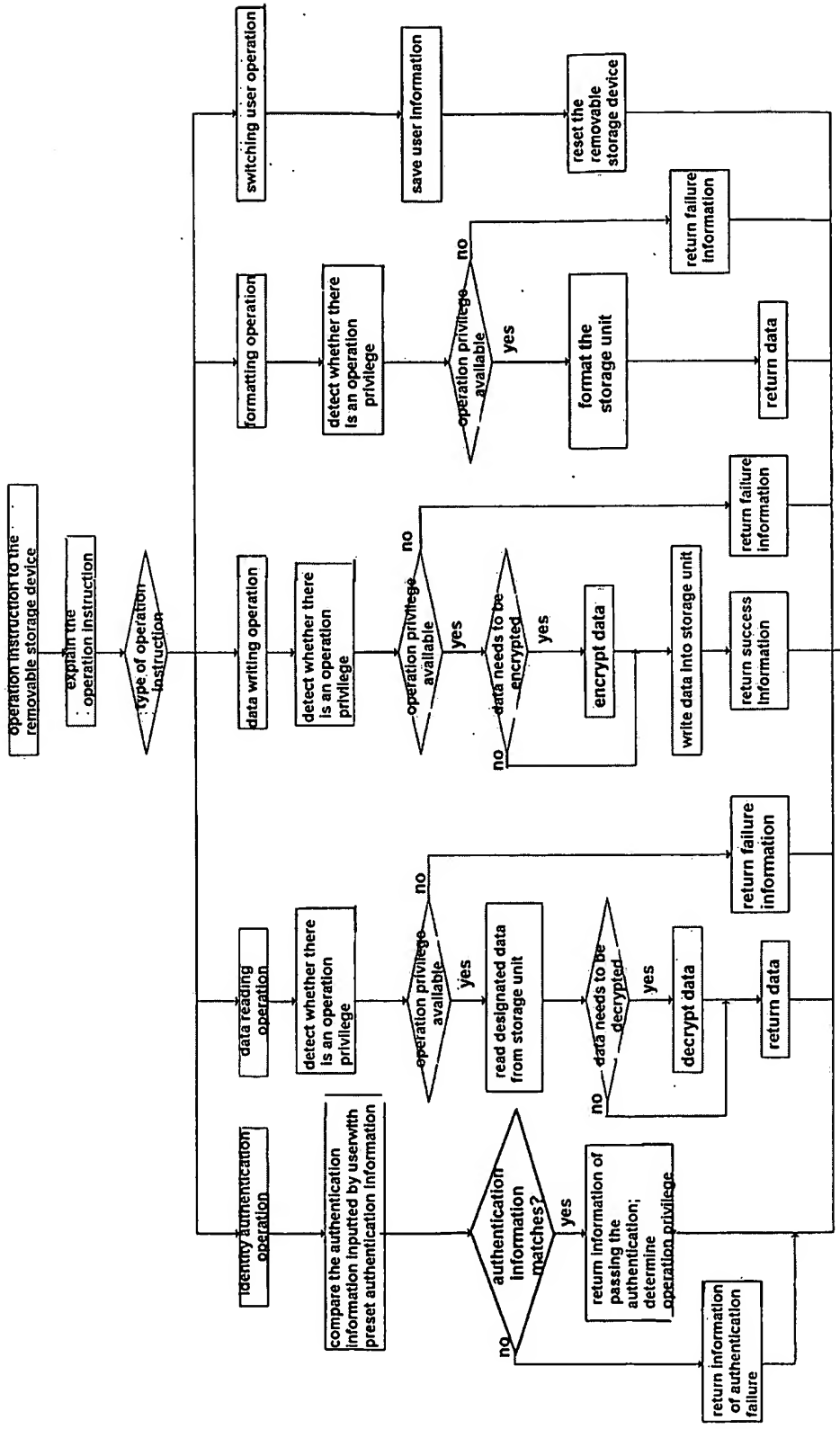
operation instruction to the removable storage device
explain the operation instruction
type of operation instruction
identify authentication operation
compare the authentication information inputted by userwith preset authentication information
authentication information matches?
no
return information of authentication failure
yes
return information of passing the authentication; determine operation privilege
data reading operation
detect whether there is an operation privilege
operation privilege available
no
return failure information
yes
read designated data from storage unit
data needs to be decrypted
no
yes
decrypt data
return data
data writing operation
detect whether there is an operation privilege
operation privilege available
no
return failure information
yes
data needs to be encrypted
no
yes
encrypt data
write data into storage unit
return success information
formatting operation
detect whether there is an operation privilege
operation privilege available
no
return failure information
yes
format the storage unit
return data
switching user operation
save user information
reset the removable storage device
return to ①

FIG. 3

serial number of chips	encryption algorithm	encryption key	other information
1			
2			
⋮	⋮	⋮	⋮
N			

FIG. 4

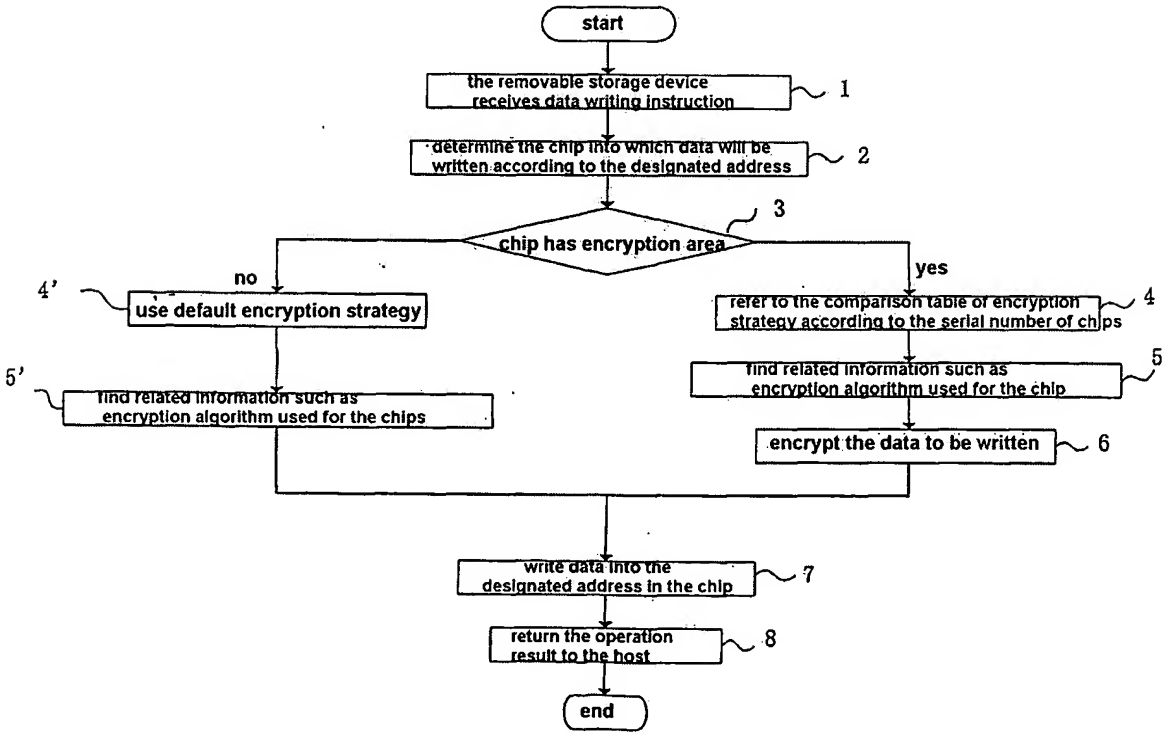

FIG. 5

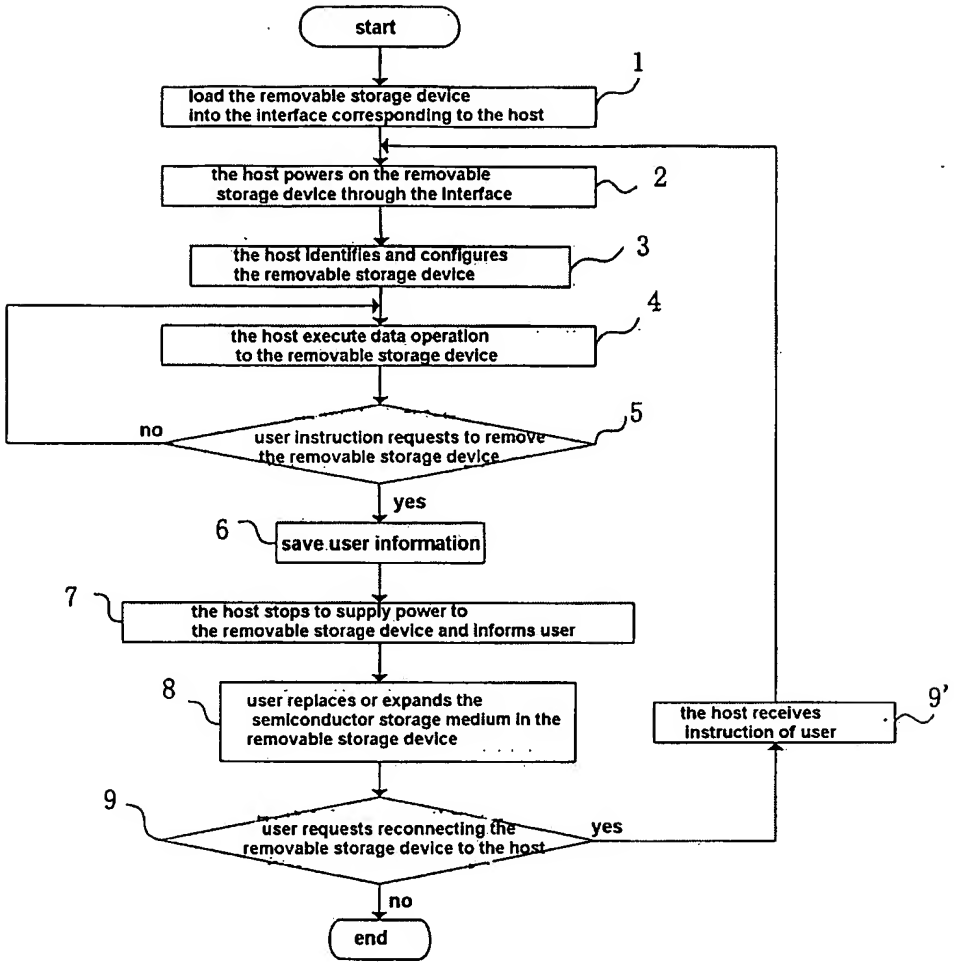
start
load the removable storage device into the interface corresponding to the host
1
the host powers on the removable storage device through the interface
2
the host identifies and configures the removable storage device
3
the host execute data operation to the removable storage device
4
no
user instruction requests to remove the removable storage device
5
yes
6
save user information
7
the host stops to supply power to the removable storage device and informs user
8
user replaces or expands the semiconductor storage medium in the removable storage device
9
user requests reconnecting the removable storage device to the host
yes
no
end
the host receives instruction of user
9'

FIG. 6